

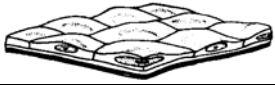
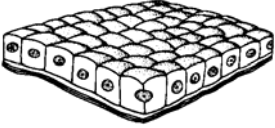
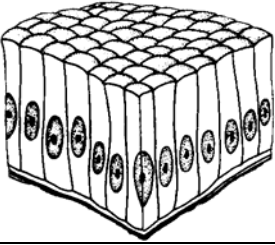
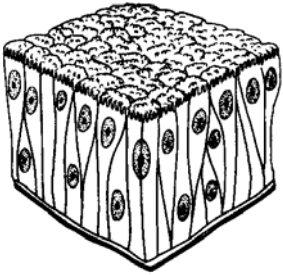
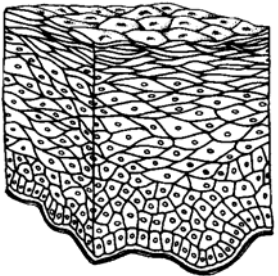
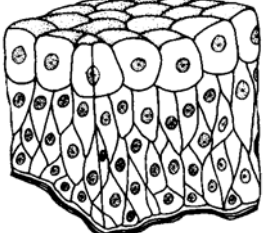
## EPITHELIAL TISSUE

### **OBJECTIVES:**


1. Identify the body's four major tissue types and their roles. (p. 82)
2. List the general characteristics of epithelial tissue. (pp. 82 – 83 and 84 – 85)
3. Describe the three types of cell-to-cell junctions found in epithelial tissue. (pp. 83 – 84)
4. Identify and give the functions and locations of the types of epithelial tissue. (pp. 85 – 89)

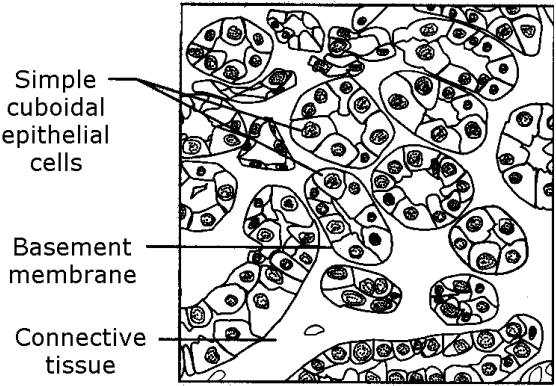
### **GENERAL CHARACTERISTICS OF EPITHELIAL TISSUE**

## CLASSIFICATION OF EPITHELIAL TISSUE

|   |  |
|---|--|
| <b>Simple Epithelium</b>  |  |
|    |  |
|    |  |
|    |  |
|   |  |
| <b>Stratified Epithelium</b>  |  |
|  |  |
|  |  |

## TYPES OF EPITHELIAL TISSUE

| <b>Simple Squamous Epithelium</b>  |                            |
|--|----------------------------|
|  <p>Nucleus of simple squamous epithelial cell</p> <p>Basement membrane</p> | <p><b>Description:</b></p> |
| <p><b>Location:</b></p>  | <p><b>Function:</b></p>    |

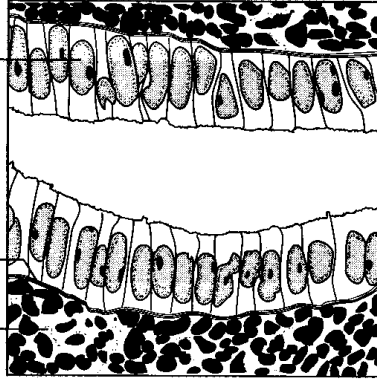
| <b>Simple Cuboidal Epithelium</b>   |                            |
|---|----------------------------|
|  <p>Simple cuboidal epithelial cells</p> <p>Basement membrane</p> <p>Connective tissue</p> | <p><b>Description:</b></p> |
| <p><b>Location:</b></p>   | <p><b>Function:</b></p>    |

## Simple Columnar Epithelium

Simple  
columnar  
epithelial  
cells

Basement  
membrane

Connective  
tissue



**Description:**

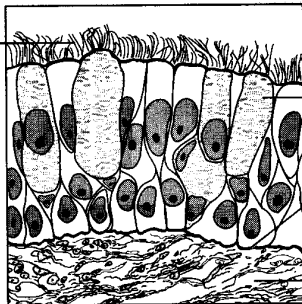
**Location:**

**Function:**

## Pseudostratified Epithelium

Cilia

Pseudo-  
stratified  
epithelium



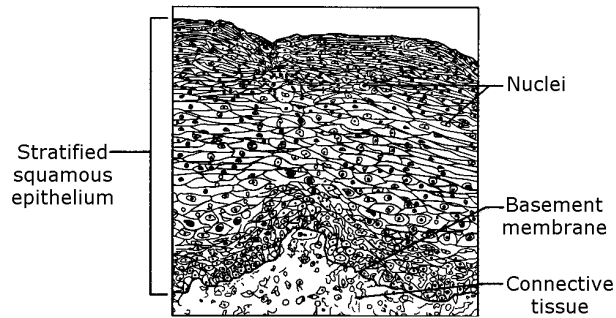
Mucous  
goblet  
cell  
Basement  
membrane  
Connective  
tissue

**Description:**

**Location:**

**Function:**

## Stratified Squamous Epithelium

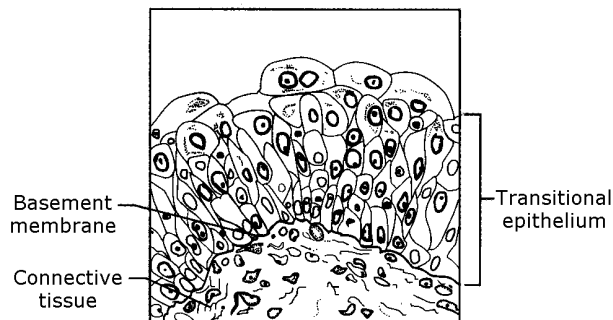


**Description:**

**Location:**

**Function:**

## Transitional Epithelium



**Description:**

**Location:**

**Function:**

**QUESTIONS:**

1. Identify the type of epithelial tissue represented in each of the pictures on the tissue cards.

| #  | Type of Tissue | #  | Type of Tissue |
|----|----------------|----|----------------|
| 1  |                | 2  |                |
| 3  |                | 4  |                |
| 5  |                | 6  |                |
| 7  |                | 8  |                |
| 9  |                | 10 |                |
| 11 |                | 12 |                |
| 13 |                | 14 |                |
| 15 |                | 16 |                |
| 17 |                | 18 |                |
| 19 |                | 20 |                |
| 21 |                | 22 |                |
| 23 |                | 24 |                |

2. Match the epithelial tissue with the correct description.

- |                              |                        |
|------------------------------|------------------------|
| A. Pseudostratified columnar | D. Simple squamous     |
| B. Simple columnar           | E. Stratified squamous |
| C. Simple cuboidal           | F. Transitional        |

- \_\_\_\_\_ Single layer of cube-shaped cells
- \_\_\_\_\_ Single layer of flat cells
- \_\_\_\_\_ Single layer of cells that are taller than they are wide
- \_\_\_\_\_ Appear stratified; nuclei of cells at different levels; all cells contact the basement membrane
- \_\_\_\_\_ Several layers of cells; cells at surface are flat; cells near basement membrane are cuboidal
- \_\_\_\_\_ Seems to have many layers; layered appearance result of overcrowding; outermost cells appear rounded or cuboid

3. Match the epithelial tissue with the correct location.

- |                              |                        |
|------------------------------|------------------------|
| A. Pseudostratified columnar | D. Simple squamous     |
| B. Simple columnar           | E. Stratified squamous |
| C. Simple cuboidal           | F. Transitional        |

- \_\_\_\_\_ Surface of the skin, lining of the mouth, throat, rectum, anus, vagina
- \_\_\_\_\_ Urinary bladder, renal pelvis, ureters
- \_\_\_\_\_ Nasal passages, bronchi, trachea
- \_\_\_\_\_ Lining of the ventral body cavities, lining of the heart and blood vessels, portions of the kidney tubules, inner lining of the cornea, gas exchange surfaces in lungs
- \_\_\_\_\_ Glands, ducts, portions of the kidney tubules, thyroid gland
- \_\_\_\_\_ Lining of the stomach, intestines, gall bladder, Fallopian tubes

4. Match the epithelial tissue with the correct function.

- |                              |                        |
|------------------------------|------------------------|
| A. Pseudostratified columnar | D. Simple squamous     |
| B. Simple columnar           | E. Stratified squamous |
| C. Simple cuboidal           | F. Transitional        |

\_\_\_\_\_ Decrease friction; controls vessel permeability; absorption and secretion

\_\_\_\_\_ Limited protection; absorption; secretion

\_\_\_\_\_ Protection; absorption; secretion

\_\_\_\_\_ Protection; secretion

\_\_\_\_\_ Stretches; permits expansion and recoil after stretching

\_\_\_\_\_ Provides physical protection against abrasion, pathogens, and chemical attack

5. What is the function of the basement membrane?

---

---

6. Match the description with the correct tissue type.

- |                      |                   |
|----------------------|-------------------|
| A. Connective Tissue | C. Muscle Tissue  |
| B. Epithelial Tissue | D. Nervous Tissue |

\_\_\_\_\_ Covers exposed surfaces of the body and lines internal passageways and chambers

\_\_\_\_\_ Fills in internal spaces; provides structural support

\_\_\_\_\_ Contracts and provides active movement

\_\_\_\_\_ Conducts electrical impulses

\_\_\_\_\_ Major tissue found in the brain, spinal cord and peripheral nerves

\_\_\_\_\_ Major tissue found in the wall of the heart and skeletal muscles

\_\_\_\_\_ Provides physical protection; controls permeability; produces secretions



7. In general, what is the function of cell-to-cell junctions?

---

8. Match the description or example with the correct cell-to-cell junction.

- A. Desmosomes
- B. Gap Junctions
- C. Tight Junctions

\_\_\_\_\_ Hold two cells together by interlocking channel proteins in the cell membrane

\_\_\_\_\_ Allow small solutes to move between cells

\_\_\_\_\_ Most abundant in cardiac and smooth muscle tissue

\_\_\_\_\_ Cell membranes are fused; outermost lipid layers of adjacent cells pressed together by interlocking proteins

\_\_\_\_\_ Prevent passage of water and solutes between cells

\_\_\_\_\_ Found between epithelial cells that line the digestive tract

\_\_\_\_\_ Keep digestive enzymes, stomach acids, waste products and bacteria from seeping into body tissues and damaging the tissue

\_\_\_\_\_ Rivet cells together

\_\_\_\_\_ Very strong and can resist stretching and twisting

\_\_\_\_\_ Found between skin cells

\_\_\_\_\_ Lock two cells together by intercellular cement and network of fine proteins